

ABSTRACT

A digital communication system (20) in which a signal constellation (30) of a dimensionality of at least four is used, with distance properties chosen to reduce the bit error rate compared to that of digital communication systems using signal constellations of half the dimensionality. A symbol generator (21) uses the higher dimensional signal constellation (30), or any orthogonal transformation of the higher dimensional signal constellation (30), to translate a bit stream into a stream of higher dimensional symbols, which it then provides to a modulator (22). The modulator (22) transmits each higher dimensional symbol in at least two parts, using a modulation scheme according to the prior art, such as QAM or QPSK.